

meri-Amen setep-en-Rā." This find is a second discovery of Tell el-Amarna letters, and may prove equally important!

In connection with the relations between Rameses II. and the Hittites, an interesting little discovery may be chronicled. Last year Prof. Breasted, copying the inscriptions of the temple of Abū Simbel in Nubia, read through again the inscription which records the marriage of Rameses with the daughter of the Hittite king, contracted in order to cement their alliance. In the course of reading he came across a new word, which he identified as the Egyptian expression for *snow*; this word reads *selg*, which is evidently the Semitic *telg*, "snow" or "ice," which we have adopted to express the substance *talc*. Rameses is speeding the Hittites on their homeward way, and hopes that they will not be troubled by snow in the Lebanon passes. Hot Nubia was a curious place in which to find and first identify the hieroglyphic word for "snow"!

SCIENCE AND GOVERNMENT.

THEORETICALLY at least most observers admit that the adoption of the scientific method in the management of the affairs of State is a preliminary necessity if national efficiency is to be secured. The Secretary of State for War notably has urged again and again that we cannot expect as a people to compete successfully with other nations, whether in peace or war, unless like them we learn to take advantage of the assistance which science and men of science are able to offer.

It is only in recent years that it has begun to be understood in how many directions the methods of science are applicable. No longer is it imagined that the plan of inquiry which has proved so successful in probing the mysteries of the material universe is suitable only in the laboratory and observatory. The adoption of similar lines of approach in the study of history, language, economics, education, and other subjects at one time thought to have nothing in common with science has resulted, indeed, in unprecedented progress in all of them. So, too, in recent times industry and commerce have come under the same influence with beneficial results. The spirit of scientific research, in fact, is beginning to dominate most forms of intellectual activity.

There is growing evidence, also, that politicians in most countries are beginning to realise that statesmanship is no exception to this rule, but, like other skilled labour, is most satisfactory when conducted on scientific principles. But whether British statesmen appreciate this truth to the same extent as those of other great nations is a matter of grave doubt. Their education generally has been of such a character as to leave them with a colossal ignorance of science and scientific methods; and it is only by overcoming the bias received at the public school and university that most of them come to understand the modern outlook. One of the results of the regard in which science is held by legislators is to be found in the amount of money they vote from the public funds for scientific purposes, and it is consequently possible to institute a comparison between the importance attached to scientific investigation by statesmen in the United States on one hand, and in the United Kingdom on the other.

"The Digest of Appropriations for the Support of the Government of the United States for the Service of the Fiscal Year ending June 30, 1908," recently published in Washington, provides detailed information as to the amounts voted by Congress to enable American statesmen to secure the best scientific assist-

ance in the different Government departments. Similarly, the various estimates—for the Army, Navy, Civil Services, &c.—ordered to be printed by the House of Commons, and procurable from Messrs. Wyman and Sons, Ltd., give full particulars as to the provision made by the House of Commons, at the suggestion of the Chancellor of the Exchequer, for similar help during 1907-8 for the British Government.

In the following comparison no reference is made to educational establishments for the technical training of soldiers and sailors or to the grants made to colleges and universities. This subject has been exhaustively treated in these columns on more than one occasion. The intention here is to compare the amounts set aside in the two countries for scientific investigation with a view to the application of the results to matters of national importance. Some amounts may have been overlooked, but it is believed that every sum of importance, so far as the comparison is concerned, has been included.

To begin with the United States, it will be best first to state simply, under the headings as they occur in the official volume from Washington, the amounts voted for various purposes, and then to explain more fully the specific purpose of the grant in cases where it seems necessary.

TABLE I.—UNITED STATES.

Under Smithsonian Institution.			
International Exchanges ...	...	...	£ 6,400
American Ethnology ...	...	...	8,000
Astrophysical Observatory ...	...	...	2,600
International Catalogue of Scientific Literature ...	...	...	1,000
Building National Museum ...	...	...	250,000
Preservation of Collections ...	...	...	38,000
National Zoological Park ...	...	...	22,000
Navy Department.			
Hydrographic Office ...	...	...	27,900
Naval Observatory ...	...	...	12,540
Nautical Almanac ...	...	...	4,250
Surveying Public Lands.			
Surveying Public Lands ...	...	...	87,000
Geological Survey ...	...	...	83,000
Surveying Forest Reserves ...	...	...	20,000
Analysing and Testing Coals, &c. ...	...	...	50,000
Testing Structural Materials ...	...	...	20,000
Department of Agriculture.			
Salaries, Library, Contingent Expenses ...	...	...	206,900
Bureau of Animal Industry ...	...	...	189,400
Eradicating Cattle Ticks ...	...	...	30,000
Bureau of Plant Industry:			
General Expenses ...	...	...	117,000
Grain Investigations ...	...	...	8,000
Distribution of Valuable Seeds ...	...	...	47,600
Cotton Boll-weevil Investigations ...	...	...	22,000
Forest Service:			
General Expenses ...	...	...	351,400
Bureau of Chemistry ...	...	...	130,000
Bureau of Soils ...	...	...	34,000
Bureau of Entomology:			
Entomological Investigations ...	...	...	22,800
Cotton Boll-weevil Investigations ...	...	...	8,000
Preventing Spread of Moths ...	...	...	30,000
Bureau of Biological Survey:			
Biological Investigations ...	...	...	8,880
Bureau of Statistics:			
Collecting Agricultural Statistics ...	...	...	44,580
Office of Experiment Stations:			
Agricultural Experiments ...	...	...	213,400
Nutrition Investigations ...	...	...	1,000
Irrigation Investigations ...	...	...	30,000
Weather Bureau ...	...	...	280,710
Department of Commerce and Labour.			
Coast and Geodetic Survey ...	...	...	198,000
Bureau of Fisheries ...	...	...	134,000
Total ...	...	...	2,740,360

Most of the items included under the Smithsonian Institution explain themselves, but it is worth while to say that the grant to American ethnology is "for continuing ethnological researches among the American Indians and the natives of Hawaii." The grant of a quarter of a million pounds sterling to the National Museum is stated to be for the completion of the construction of the building.

As regards the last two items under "Surveying Public Lands," the first is explained to be for "the analysing and testing of the coals, lignites, and other mineral fuel substance belonging to the United States, in order to determine their fuel value," and "for the purpose of increasing the general efficiency or available supply of fuel resources in the United States." The grant for testing structural materials is similarly "for the investigation of structural materials belonging to and for the use of the United States, such as stone, clays, cement, and so forth."

The Bureau of Animal Industry was instituted "to enable the Secretary of Agriculture more effectually to suppress and prevent the spread of contagious and infectious diseases of live stock, and for other purposes." The duties of the Bureau of Plant Industry cover every part of scientific agriculture so far as plant life is concerned. In the same way, the Forest Service includes every aspect of scientific and economic forestry; and each of the departments under the heading agriculture deals in a like comprehensive spirit with the branch of science with which it is identified. The other items are sufficiently explained by their titles.

TABLE II.—UNITED KINGDOM.

<i>Board of Education.</i>				
Museums Purchase Grant (Science Grant in Aid)				£ 1,800
Geological Museum				3,894
Geological Survey				18,072
Solar Physics				1,901
<i>British Museum.</i>				
Natural History Museum				53,724
<i>Scientific Investigation.</i>				
Royal Society				16,750
Meteorological Office... ..				15,500
Royal Geographical Society				500
Marine Biological Association				1,000
Royal Society of Edinburgh				600
Scottish Meteorological Society				100
Royal Irish Academy				2,000
Royal Zoological Society of Ireland				500
Edinburgh Observatory				1,600
International Geodetic Association				419
North Sea Fisheries Investigation				12,500
International Seismic Association... ..				210
<i>Public Education, Scotland.</i>				
Royal Scottish Museum, Edinburgh, Science Side (estimate)				1,500
<i>Temporary Commissions.</i>				
Sewage Disposal Commission, Scientific Investigations				3,750
Tuberculosis Commission, Scientific Investigations				7,673
Epizootic Abortion Committee, Scientific Investigations				1,110
Mines Commission, Scientific Investigations				1,000
<i>Army.</i>				
Inspection of Warlike and Engineer Stores: Seven Chemists				2,340
Ordnance Research Board: Fourteen Chemists and one Chemical Engineer				4,140
<i>Navy, Scientific Services.</i>				
Royal Observatory, Greenwich				9,709
Observatory at the Cape of Good Hope... ..				8,218
Photographic Mapping of Heavens				1,580

Hydrographic Department... ..	£ 38,506
Coast and other Surveys	22,280
Naval Museum, Greenwich... ..	703
Compass Department	1,897
Nautical Almanac	4,369
Chronometers	2,393
Contributions to Scientific Institutions	625

Total 242,863

The second table will explain itself to most readers of NATURE, but one or two variations in the amounts which have been introduced during the year deserve a few words of comment. The Royal Society grant is 4250*l.* less than in 1906-7, and the reason is chiefly that the grant in aid of new buildings and equipment for the National Physical Laboratory was this year reduced by 5000*l.* The grant-in-aid of salaries and other expenses of the laboratory was increased by 750*l.* The grants to the society for scientific investigations undertaken with the sanction of a committee appointed for the purpose and for scientific publications has undergone no change, and remains at 5000*l.*

The grant towards the expenses of the Meteorological Office shows an increase of 200*l.*; that towards the expenses of the Royal Society of Edinburgh an increase of 300*l.*, or in other words, the grant was doubled this year; that to the Royal Irish Academy an increase of 400*l.*, the increase being intended to provide for the cataloguing of Celtic MSS. now in the custody of the Academy; that to the International Geodetic Association an increase of 119*l.* to pay the expenses of the British delegate in respect of his attendance at the conference of the association held in 1906. The contribution to the International Seismic Association, however, shows a decrease of 40*l.*

As regards the grants enumerated under the heading "Temporary Commissions," the detailed estimates show that the amount received on behalf of the Commission on Sewage Disposal shows an increase for the year of 250*l.*, and that the total sum of 3750*l.* is expended in the remuneration and expenses of bacteriological and chemical experts and their assistants, apparatus, and so on. The amount voted for the Tuberculosis Commission represents a decrease of 675*l.* on the amount of the grant for the previous year, though why the "expenses of experimental farms, buildings, and laboratories, the remuneration of scientific experts, &c., should be less this year is not made clear. The Committee on Epizootic Abortion received an increased grant of 260*l.* this year towards its work of inquiring, "by means of experimental investigation and otherwise, into the pathology and etiology of epizootic abortion," and this year's grant of 1110*l.* covers the expenses of the experimental farm, buildings, and laboratory. The Mines Commission, which was appointed on June 6, 1906, receives its grant of 1000*l.* for experimental work.

To sum up, the State grant for the current year towards scientific research in the United States amounts approximately to two and three-quarter millions sterling, that in the United Kingdom—allowing generously for items which may have been missed in examining the estimates—reaches a quarter of a million sterling. The revenue of the United States for 1906 reached the total of 152,477,381*l.*, and that of the United Kingdom 143,977,575*l.* In broad terms, therefore, it may be stated that with approximately the same revenue the United States attaches eleven times as much importance to scientific assistance as the mother country of Newton, Darwin, Maxwell, Kelvin, and a great host of other scientific pioneers. Who shall say that there is to-day no need for missionary enterprise on the part of the British man of science?

A. T. S.